ENVIRONMENTAL ASSESSMENT

for the

Galice Creek Road Slide Removal Project

(EA# OR110-02-012)

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT
GRANTS PASS RESOURCE AREA

March 2002

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT

EA COVER SHEET

RESOURCE AREA: Grants Pass Resource Area EA # OR-110-02-12

ACTION/TITLE: Galice Creek Road Slide Removal Project

LOCATION: T. 34 S., R. 8 W., Section 31
T. 35 S., R. 8 W., Sections 5 and 6
T. 35 S., R. 9 W., Section 34

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Galice Creek Road Slide Removal Project
Environmental Assessment

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Chapter 1
Purpose of and Need for Action

A. Introduction

The purpose of this environmental assessment (EA) is to assist in the decision making process by assessing the environmental and human affects resulting from implementing the proposed project and/or alternatives. This EA will also assist in determining if an environmental impact statement (EIS) needs to be prepared or if a finding of no significant impacts (FONSI) is appropriate.

This EA tiers to the following documents:

(1) the Final EIS and Record of Decision for the Medford District Resource Management Plan (June 1995);

(2) the Final Supplemental EIS on Management of Habitat for Late-Successional and Old-Growth Forest Related Species within the Range of the Northern Spotted Owl (February 1994);

(3) the Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl and its attachment A entitled the Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl (April 13, 1994) (also referred to as the Northwest Forest Plan (NFP));

(4) the Medford District Noxious Weed Environmental Assessment (April 1998);

(5) the Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines (January 2001).

B. Purpose and Need for the Proposal

A rockslide occurred on BLM administered lands at milepost 4.5 on the Galice Creek Road during the first week of February 2002. The slide blocked the road. The purpose of the proposal is to reopen the Galice Creek Road and maintain a safe condition for road users. The goal is to have it reopened in time for the onset of its heavy use season. In order to reopen the road for public use the slide material would need to be removed from the site, transported and deposited at another location. The slide site and the deposition sites may need to be adequately stabilized and rehabilitated following the removal of the slide material.

The Galice Creek Road is maintained by the BLM. The road is an important forest transportation route providing access for management activities on BLM and Forest Service lands to the west. The Galice Creek Road is also the primary road used by shuttle vehicles and rafters floating the wild section

of the Rogue River, a congressionally designated component of the National Wild and Scenic Rivers system. This road connects Galice and Agness and receives heavy seasonal use by rafters, outfitters, and other members of the public, especially during the Rogue River rafting season beginning on approximately May 1.

C. Project Location

The attached vicinity map (Map #1) shows the approximate location of the slide and areas proposed to be used as waste material disposal sites. The project area is located approximately twenty miles west of Grants Pass, Oregon.

D. Issues and Concerns Relevant to the Project

A variety of issues and concerns were raised by the interdisciplinary team, engineers with the Medford BLM Division of Operations, outside consultants and others during the initial scoping of this project. Those most pertinent to the project are: a) potential impacts to commercial and non- commercial outfitters and rafters if the slide cannot be removed prior to the beginning of the rafting season, b) safety issues during the slide removal process, c) the potential for loose soil, and other material, falling or eroding into Galice Creek, and d) resource values at the locations of the waste material deposition sites.

E. Land Use Allocation Objectives

The slide site is located within the riparian reserve land allocation. The identified deposition sites are located within the Late-successional Reserve land allocation. Land use allocations are set by the NFP and RMP. The reader is referred to these documents for discussions of the management objectives and constraints for these allocations.

Chapter 2
Proposed Action and Alternatives

A. Introduction

This chapter describes the proposed action and alternatives that are addressed and analyzed in this EA.

B. Proposed Action and Alternatives Alternative

1. Alternative 1: The No Action Alternative

In this EA document the "no-action" alternative is defined as not implementing any aspect of the proposed action alternative(s). Defined this way, the no action alternative also serves as a baseline or reference point for evaluating the environmental effects of the action alternatives. Inclusion of this alternative is done without regard as to whether or not it is consistent with the Medford District RMP.

The no action alternative is not a "static" alternative. Implicit in it is a continuation of the environmental conditions and trends that currently exist in the project area. This includes trends such as vegetation succession and consequent wildlife habitat changes, road condition / deterioration, rates of erosion, continuation of current road densities, trends in fire hazard changes, OHV use, *etc.*.

For this assessment, this alternative means that the slide material would not be removed from the Galice Road and the road would remain closed indefinitely.

2. Alternative 2: Proposed Action

a. Slide removal and stabilization

The proposed action includes the removal of the slide material to the extent needed to stabilize the slide and open the road to at least a one lane width, and the disposal of the material at one or more of the locations identified on Map #2. The project would occur in two stages. It is anticipated that stage #1 would begin by May 1, 2002 and be completed in approximately two weeks. Stage #2 would begin at the conclusion of stage #1 and may continue for approximately three weeks during the spring of 2002.

Stage 1: Stage #1 entails hiring a specialty blasting contractor to scale and trim the slope using manual and low-impact blasting techniques. Workers would climb on foot to the top of the slope above the slide area. Preparation for the blasting would include working while secured by ropes from above the failure. Loose boulders would be manually removed using pry bars. Larger boulders that cannot be pried but appear weakened, boulders that are excessively fractured or cracked or otherwise are interpreted as a safety hazard, as well as the material between the present slope face and the tension cracks, would be removed using low-impact blasting techniques known as “boulder-buster shots”. The boulder-busters fracture the rock but do not produce explosive showers of rock fragments. The sound they make is likened to a shotgun blast. Vibration is minimal. The disturbance is low enough that

workers can safely set off the shots from a distance of about 15 to 20 feet. The actual extent of removal would be determined in the field by a designated project inspector, however, it appears the material to be removed is between 20 and 50 feet above the top of the slide. If adequate results are not achieved through the above techniques, additional explosives may be used to achieve the results desired.

Stage 2: Stage #2 includes the removal of the slide material and the additional material released by the blasting, and hauling that material to one of the identified disposal sites. Most of the removal would be accomplished using standard excavation equipment (bulldozers, excavators, front end loaders and 10 and/or 20 yard dump trucks). No new access roads into the slide area would be constructed. If necessary, temporary ramps may be constructed using the slide material in order to access the higher elevations of the slide.

An estimated 15,000 cubic yards of slide material could potentially be removed. As removal proceeds, slope stability would be continually evaluated and reviewed. The goal is to remove enough material to provide safe access by the slide with a road surface width of at least 12 feet, to leave a relatively stable slide, but not to remove so much that it would undercut the slide which would lead to an expansion of the slide and unstable area. Establishing this balance point may ultimately require incremental work over several seasons.

If as work progresses it is determined that buttressing the base of the slide or making a natural rock blanket would contribute to stabilizing the slide and protecting the road, this is a technique that would be used.

If possible, approximately 3,000 cubic yards of slide material larger than 24 inches in diameter would be hauled down the Galice Creek Road and stockpiled at the location of the Leopold Mine site. This material would be used to stabilize the slide at that location during work anticipated in the summer of 2002.

The remainder of the slide material would be hauled to designated disposal sites. Three sites have been identified as alternatives for waste stockpile sites (see Map #2). Each disposal site is further discussed below in Alternatives - Discussion of Waste Disposal Sites.

The Galice Creek Road would be closed 24 hours/day to all public traffic throughout the period required to clear the slide and stabilize the site. However, once the blasting work has been completed, the slide stabilized and initial clearing work is completed, the road would be opened briefly at 9 AM, 12 noon, and 3 PM daily to allow traffic that has accumulated to pass.

It is anticipated that the excavation equipment would remain on site throughout the duration of the stage #2. Fueling of the machinery would occur on-site.

Rehabilitation of the slide area would not be necessary following the removal of the slide material since very little soil and fine materials would remain.

Estimated cost for blasting and loading is $76,250.

b. Alternative Waste Disposal Sites

Three alternative waste disposal sites have been identified. These sites, which are shown on Map #2, vary in size and distance from the slide site (see table below). Potentially, they could be used in any combination to accommodate all of the slide material and would be used to compliment the material moved to the Leopold Mine site for reclamation work there:

Table 1: Potential Waste Disposal Sites

Disposal Site	Size (Acres)	Estimated Site Capacity (yd^3)	Distance from Slide Area (mi)
Leopold Mine	--	3,000 *	1.8
1	1.0	6,000 (4,000 on landing, 2,000 on spur access road)	3.3
2	1.1	2,000	6.9
3	20	"unlimited"	11.5

* amount is limited to what is needed for rehabilitation work

Leopold Mine Site: This site is down hill from the slide area. Disposal of approximately 3,000 yd^3 at this site is proposed based on the estimated volume of rock material that could be appropriately used during restoration work at that site. The slide material that would be permitted to be disposed at this site is the larger rocks. This could require some slide material separation work at the slide site.

Sites 1 and 2: These sites are old log landings that were built and utilized during past timber management activities.

At Site 1, the amount of material that could be placed is estimated to be 6,000 yd^3. The actual amount would be limited to that which would only fill the site and spur road from the top of the existing cut slope and sloping to the edge of the road / landing surface. This limitation is to prevent the fill slopes from overloading thereby minimizing the potential for fill slope failure.

Disposal and piling of slide material at Site 2 would be limited to the existing landing limits and would not encroach on the Serpentine Springs Road.

Site 3: This site is the Hobson Horn rock pit, a developed rock quarry. An unused portion of the quarry would be used for waste material disposal.

C. Project Design Features

Project design features (PDFs) are included in the proposed action for the purpose of reducing

anticipated adverse environmental impacts which might stem from the implementation of the proposal. The PDFs noted below would be a part of all action alternatives, unless otherwise noted.

1. Sites where fuel is stored and fueling activities occur would be identified prior to the commencement of work with measures taken to minimize impacts that could occur from fuel spills.

2. Signs would be placed at both ends of the work area to warn the public of the work being done and potential safety hazards. Barricades would also be placed at both ends of the work area so that public access is limited. Signs would indicate the times that traffic would be allowed to move through the area. At the conclusion of the initial slide removal work, appropriate warning / safety signs would be installed above and below the slide site to warn motorists of hazardous conditions such as potential rocks on pavement and a narrowing roadway.

3. Known noxious weed sites at disposal sites would be flagged. Contractors would be required to avoid these places so that vehicle tires do not pick up and re-distribute the seeds of these species to other areas. Any special status plant species adjacent to disposal sites would also be flagged for avoidance to ensure their protection.

4. Straw bales or geo-textile material would be placed in the ditch along the Galice Road at the slide location to catch sediment.

5. Since there is Port-Orford Cedar located along the haul routes, Port-Orford cedar management guidelines would be employed and the contractor would be required to wash equipment prior to arriving at the slide area.

6. Any use of explosives would be done in a manner consistent with BLM and state blasting safety requirements. Blasting would de done in a manner that would prevent material from being deposited in Galice Creek.

Chapter 3
Environmental Consequences

A. Introduction

Only substantive site specific environmental changes that would result from implementing the proposed action or alternatives are discussed in this chapter. If an ecological component is not discussed, it should be assumed that the resource specialists have considered affects to that component and found the proposed action or alternatives would have minimal or no affects. Similarly, unless addressed specifically, the following were found not to be affected by the proposed action or alternatives: air quality; areas of critical environmental concern (ACEC); cultural or historical resources; Native American religious concerns; prime or unique farmlands; floodplains; endangered, threatened or sensitive plant, animal or fish species; water quality (drinking/ground); wetlands/riparian zones; wild and scenic rivers; and wilderness.

This project is not located within the Oregon State Coastal Management Zone (CMZ). Unless otherwise noted it has been judged not to have any direct affects on the resources within the management zone nor has it been identified by the State of Oregon's LCDC as a project (by type and geographic location) outside of the CMZ but still needing a consistency review. Thus a consistency determination and review by the State of Oregon LCDC is not needed.

General or "typical" effects from projects similar in nature to the proposed action or alternatives are also described in the EISs and plans to which this EA is tiered.

B. Affected Environment

1. Description and slide area elements

The road at the slide area parallels Galice Creek, a fish-bearing perennial stream. The mass of fractured rock and boulders slid onto a segment of the road closing it to vehicle passage. A short segment of the outside shoulder was also damaged by the rock-fall. Several massive boulders remain at the top of the slope. The slide material is primarily rock.

The failure occurred in a steep, north-facing slope composed of weathered and fractured metamorphic rock overlain by a thin layer of rocky soil. The bedrock was evaluated to be dipping 48 to 60 degrees to the northeast. Based on the appearance of the site, the mechanism of failure is thought to be a shallow translational slide along the contact between the weathered surface rock and the underlying competent bedrock.

The failure dimensions have been estimated between about 200 to 400 feet long from crown to toe: about 250 feet wide and four feet deep. Based on these measurements, the volume of rock and soil displaced is between 10,000 and 15,000 cubic yards. Most, if not all of the failure mass, was caught on the road surface. Minor amounts of material may have landed in Galice Creek when the slide occurred. There is no blockage or encroachment in the creek channel as a result of this failure. The

majority of the material within the slide is rock; there is very little (<5%) soil or fine materials included.

The estimated maximum disturbance area, blast and excavation volumes, and volume to be hauled from the site are:

Failed volume of soil and rock:	11,000 cy
Stage 1 released volume:	7,000 cy
Total volume to be removed:	18,000 cy
Area of failure:	75,000 ft^2
Stage 1 disturbance area (above failure):	5,000 ft^2
Disturbance area outside failure (access ramps, Stage 2):	1,600 ft^2

Mining: There are two mining claims located at the location of the slide area. Both are placer claims.

Botany: The slide location was not surveyed for vascular and non-vascular plants following the slide occurrence. However, a special status vascular survey was completed along the Galice Creek Road in 1995. No special status species were found at that time. No suitable habitat for special status, survey and manage or listed plants remains at the slide area due to the nature of the slide.

Wildlife: The closest known northern spotted owl site is greater than 1/4 mile from the slide area. There are no survey and manage or listed species in the slide area. No other animal species listed for protection under the Endangered Species Act, identified as Survey and Manage species, or Special Status Species have been identified within the slide area.

Cultural Resources: No historic or prehistoric cultural resources have been identified within the slide area.

Fisheries: The coho salmon is found within Galice Creek. The coho salmon, a listed species, is afforded protection under the Endangered Species Act. Galice Creek has also been identified as an important anadromous fisheries stream.

Recreation: Galice Creek Road is a BLM designated Backcounty Byway. The Galice Road is heavily used by the public and those who raft the wild section of the Rogue River. Private and commercial shuttles take those rafters from the Foster Bar take out point back to where the river trip began (e.g., Galice, Grave Creek, Almeda bar). Those shuttle services typically use vans and boat trailers. Alternate routes that avoid the slide blocked section of the Galice Creek Road do exist. They are, however, much longer, are very narrow or are unsurfaced. The one paved alternate route is via Highway 199 from Grants Pass to Brookings to and then up the coast to Gold Beach and Foster Bar.

2. Waste Disposal Sites

Sites 1 and 2: These sites are old log landings with access roads built and used during forest management and fire salvage (logging) activities in the late 1980's. More recently (2001) plans were

developed to restore and rehabilitate both sites by ripping the landings and roads and planting with native seed and sterile wheatgrass.

Minerals: There are no mining claims located at either sites.

Botany: Port Orford Cedar is present along Galice Creek Road.

Wildlife: The closest known NSO site is greater than 1/4 mile from the proposed waste sites. There are no survey and manage or listed species in the disposal sites. In their current condition, these helicopter landings do not provide suitable habitat for threatened, endangered or survey and manage wildlife species. However, these sites have previously been included in a project (Peavine Helicopter Landings EA) aimed at rehabilitation of these and other landings.

Cultural Resources: No known historic or prehistoric cultural resources have been identified at either site. The proposed waste areas were surveyed in the past during the planning of the earlier timber management activities.

Site 3: This site is located within the Hobson Horn Quarry. A portion of the quarry is unused. The stockpiled waste material would be located in this unused area.

Minerals: There are no mining claims located at waste disposal site 3.

Botany: The disposal site at Sourgrass / Hobson Horn rock pit has the Bureau Sensitive species, *Frasera umpquaensis*, growing adjacent to it. Diffuse Knapweed, a noxious weed, is also found at this site however it would not be in flower or fruit during the disposal operation.

Wildlife: This is a highly disturbed site. In its current condition, it does not provide suitable habitat for threatened, endangered or survey and manage wildlife species.

Cultural Resources: No known historic or prehistoric cultural resources have been identified within the Hobson Horn Quarry.

C. Site Specific Beneficial and Adverse Impacts

1. Alternative 1: No Action

Under the No Action Alternative the slide would not be removed.

Wildlife: Since the slide would not be removed it is anticipated that the public would begin to bypass this segment of the Galice Creek Road. Alternate routes in the vicinity (e.g., Peavine Mountain) are, however, closed and gated which could lead to an increased probability of gate breaches, associated resource damage and poaching. Poaching and additional disturbance could result in adverse impacts to the local big game populations.

There are no anticipated effects to any wildlife species listed under the Endangered Species Act.

Fisheries: Fisheries in Galice Creek could be adversely affected if the slide is left intact and the fine material leaches and/or erodes into Galice Creek.

Recreation: All traffic would be compelled to find alternative routes that would increase the time and distance to the western destinations. The economic effect of the increased time and distance would impact river users and shuttle services. Vehicle damage could increase as people use the less improved road systems for river shuttles. The Backcountry Byway would effectively be closed to recreationist's use and travelers to the coast.

2. Alternative 2: Proposed Action

a. Slide Area

Minerals: The proposed slide removal activity would not impact the placer mining claims at the slide location. No mining proposal has been received from the mining claimants, therefore, there would be no physical interference to any proposed mining activities.

Botany: Since there is no appropriate habitat remaining at the slide area, vascular or non vascular species that would otherwise need protection as S&M or ESA listed do not exist. There would be no impacts.

Wildlife: No adverse or beneficial impacts to wildlife are identified that would result from with the opening of the road or the stabilization of the hillside.

Fisheries: No impact would occur to Galice Creek as a result of the slide removal activities. The material to be removed does not contain a large amount of material that could erode into Galice Creek at the slide area either during removal activities or after the reclamation activities are concluded at the slide. This no affect in conjunction with the slide being located approximately one mile above critical coho salmon habitat means that no consultation with the National Marine Fisheries Service is required.

Recreation: In general the longer the delay in opening the Galice Road to regular traffic, the more economic impact there may be to commercial rafters and shuttle services. The general public that would use the road before the slide removal is completed would also be impacted. In addition, the use of the alternate routes that are rocked and narrow could become safety issues and cause damage to the vehicles and trailers.

b. Waste Disposal Sites

The comparative total costs of the slide removal would be largely dependent on the location of the waste disposal site and the requisite haul distance. The three proposed waste disposal sites and the disposal site at the Leopold Mine vary in distance from the slide area. The table below shows the distance of haul to each site, the estimated cost per 1,000 yd^3 to haul, estimated site capacity, and the

total costs associated if each site was filled with waste material to its maximum capacity.

Disposal Site	Distance from Slide Area (miles)	Disposal Site Capacity (yd^3)	Estimated Haul Costs per 1000 yd^3	Additional disposal site related cost	Total Estimated Costs to Utilize Each Site to Capacity
Leopold Mine	1.8 favorable	3,000	@ \$1.20/ yd^3/mile * \$6,480	Sorting of material 3,000 yd^3 @ \$0.50/ yd^3 \$1,500	\$7,980
1	3.3 adverse	6,000	@ \$0.85/ yd^3/mile ** \$16,830	-	\$16,830
2	6.9 adverse	2,000	@ \$0.85/ yd^3/mile ** \$11,730	-	\$11,730
3	11.5 adverse	15,000	@ \$0.85/ yd^3/mile ** \$146,625	-	\$146,625
* Cost estimate is based on use of 10 yd^3 trucks. ** Cost based on the use of 20 yd ^{3} dump trucks. If 10 - 12 yd^3 were used, estimated haul cost would be \$1.45/yd3/mile.					

1) Sites 1 and 2:

Minerals: No mining claims are located within these two proposed waste disposal areas.

Botany: A reduction in LSR restoration potential would occur for sites 1 and 2.

Wildlife: If these sites are utilized as disposal sites there would be no rehabilitation completed as previously planned (Peavine Helicopter Landing EA). Additionally, placing the slide waste material on these sites would remove the potential for these sites to provide, in the long term, habitat for late-successional species and achieve the long term goals identified for the LSR land allocation. The two sites, which involve a total of 2-3 acres, are located within a highly variable mosaic of vegetation types and conditions. In and of themselves, they do not possess values that are particularly unique or unusual within the immediate landscape.

There are no anticipated effects to any wildlife species listed under the Endangered Species Act.

Soils:

Site 1: The soils at site 1 are fine textured and deep with low bearing capacity when wet. This physical property is critical on the fill slope side of the site and the spur road leading to the site. Excessive loading of the fill slopes by depositing the slide material could contribute to fill slope failure and down slope erosion from the slumped surface. Limiting the material placed at this site to the proposed approximately 4,000 yd^3 and 2,000 yd^3 on the road would reduce this potential and contouring it as described in the proposed action should substantially reduce the potential for this occurring.

Site 2: Road #35-9-1.2 that leads to the site is approximately 2 miles long. The proposed action of hauling approximately 2,000 yd^3 if slide material equates to approximately 200-250 trucks loads. This will result in grinding/pulverizing of road's surface rock. This could contribute to increased sedimentation in the runoff from the road surface. However, the ridgetop location of the road renders this potential impact as inconsequential with regard to direct or indirect effects.

Site 3: There would be no soils impacts at this site as it is an old rock pit.

Minerals: No mining claims are located within this proposed waste disposal area.

Botany: No direct effects would occur to current vegetation at this site.

Wildlife: There are no anticipated effects to any wildlife species listed under the Endangered Species Act.

c. Haul Route

Wildlife: Hauling slide waste material to these sites would require utilization of roads next to unsurveyed suitable northern spotted owl habitat. Adverse impacts are not anticipated because the Galice Creek Road is one of the most heavily traveled roads on the Medford District.

There are no known northern spotted owl sites within in 1/4 mile of the haul route(s). The nearest known owl site is greater than 1/4 mile from the proposed haul routes and separated by a ridge from the route. Based on the distance to these sites and the fact that a ridge separates, hauling is not anticipated to impact this known site.

It is not anticipated that the increase in traffic associated with the project would have an adverse impact to the northern spotted owl.

Chapter 4
Agencies and Persons Consulted

A. Public Involvement

Scoping for the project was done by the BLM Interdisciplinary team. Public scoping was not done and a public comment period will not be held due to the urgency of opening the road and the desire to complete the project within a short time frame.

Following the completion of the EA the Decision Record will be signed. The decision will be published in the Grants Pass Courier and on the Medford District web page.

B. Availability of Document and Comment Procedures

Copies of the EA document will be available for public review in the BLM Medford District Office.

C. Agency and Individual Consultation

In evaluating the slide condition and what to do with it, the following were consulted:

- Dave Lofgreen (Federal Highway Administration Geologist (site visit)
- PKO, Inc (blasters; site visit)
- Dave Taylor / Tim Pauley (BLM geologists, site visit)

Chapter 5
Alternatives Considered but Eliminated

Old Peavine Rock Quarry Proposed Disposal Site - an alternative was proposed to stockpile the waste material at this location (T. 34 S., R. 8 W., section 28). This quarry site is of sufficient size that it could accommodate all the slide waste material. Following an interdisciplinary team discussion on utilizing this disposal site it was agreed that hauling the material to the quarry over the unpaved (rocked only) roads for a distance of approximately ten miles would cause damage to the dump trucks and made no sense when the utilization of other sites via a paved road of less, or equal distance, were available. Therefore, this alternative was not pursued or developed / analyzed further.

Downhill Galice Road Haul and Disposal - the ID team looked at the potential of disposing the waste material at a location on BLM lands and/or private lands downhill (west) of the slide area. Other than the material that could be used at the Leopold Mine site, no sites were found to accommodate the waste material, therefore, this alternative was eliminated.

Restoration of Sites 1 and 2 - An alternative of implementing rehabilitation work at Sites 1 and 2 after placing the slide material was considered. This would have included removing and stockpiling the existing soil and then spreading it on the slide waste material after the site was full. It was concluded that largely due to the very low fine soil in the slide material, any efforts to create a productive growing site on top of the wasted rock would be futile and that the soil would merely sift through the voids to the bottom of the rock pile or be washed off.